

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF INTERNAL AFFAIRS

BUREAU OF
TOPOGRAPHIC AND GEOLOGIC SURVEY



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DECEMBER 1949

INSTRUCTIONS FOR OBTAINING PUBLICATIONS

Pennsylvania Geological Survey—Fourth Series

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Topographic maps of areas in Pennsylvania are distributed at a cost of 20 cents per map by

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THE GEOLOGICAL SURVEYS OF PENNSYLVANIA

There have been four geological surveys of Pennsylvania and four resulting series of publications:

FIRST SURVEY, 1836-1854: Publications—6 annual reports, 2 quarto-volumes, and a state geologic map.

SECOND SURVEY, 1874-1887: Publications—81 volumes, 35 atlases, and a grand atlas.

COMMISSION SURVEY, 1899-1919: Publications—6 biennial reports, and 12 economic reports listed in this pamphlet.

FOURTH SURVEY, 1919-____: Publications—listed in this pamphlet.

All reports of the first three geological surveys and many of the reports of the present (Fourth) survey are out of print. These reports are available for consultation in many libraries, and some may be purchased from used book dealers.

In addition to the publications of the State Surveys there are reports of the United States Geological Survey dealing with Pennsylvania and produced in part through cooperation with the State.

Topographic maps of Pennsylvania are made by the U. S. Geological Survey in cooperation with the Pennsylvania Topographic and Geologic Survey. Information concerning these maps, which are available from the Director, U. S. Geological Survey at a nominal cost, is given on a separate index.

PUBLICATIONS

Pennsylvania Geological Survey—Fourth Series

A —*Atlas Reports*, by quadrangle, with topographic, geologic, and mineral resource maps.

C —*County Reports*, with topographic and geologic maps.

G —*General Geology Reports*.

M —*Mineral Resource Reports*.

PR—*Progress Reports*.

SB—*Special Bulletins*; oil and gas atlas reports.

W —*Ground Water Resource Reports*.

A—Atlas Reports

		Price
A 5.	<i>New Castle quadrangle</i> , by Frank W. DeWolf. 1929. 238 pp., 18 pls. including 1 topographic and 4 geologic maps, 17 figs.	\$1.00
A 27.	<i>Pittsburgh quadrangle</i> , by Meredith E. Johnson. 1928. 236 pp., 33 pls. including 1 topographic and 3 geologic maps, 28 figs.	1.00
A 36.	<i>Freeport quadrangle</i> , by H. H. Hugbes. 1933. 272 pp., 10 pls., 72 figs. including 1 topographic and 2 geologic maps	1.75
A 37.	<i>Greensburg quadrangle</i> , by Meredith E. Johnson. 1926. 162 pp., 13 pls., 25 figs. including 1 topographic and 3 geologic maps.	*
A 54.	<i>Brookville quadrangle</i> , by C. K. Graeber, R. M. Foose, and M. N. Shaffner. 1942. 136 pp., 16 pls. including 1 topographic and 3 geologic maps, 14 figs.	2.00
A 55.	<i>Smicksburg quadrangle</i> , by Marchant N. Shaffner. 1947. 300 pp., 11 pls. including 1 topographic, 1 geologic, and 1 mineral resources maps, 103 figs.	2.00
A 65.	<i>Punxsutawney quadrangle</i> , by George H. Ashley. 1926. 145 pp., 6 pls. including 1 topographic and 3 geologic maps, 26 figs.	*
A 75.	<i>Curwensville quadrangle</i> , by George H. Ashley. 1940. 140 pp., 32 figs., 4 pls. including 1 topographic, 1 areal geology, 1 mineral resources map, and 1 stratigraphic chart	1.50
A 96.	<i>Tyrone quadrangle</i> , by Charles Butts, F. M. Swartz, and Bradford Willard. 1939. 116 pp., 14 pls. including 1 geologic map and cross sections, 4 figs.	1.00
A 168.	<i>Lancaster quadrangle</i> , by Anna I. Jonas and George W. Stose. 1930. 103 pp., 23 pls. including 1 topographic and 1 geologic map, 10 figs. ...	1.00
A 178.	<i>New Holland quadrangle</i> , by Anna I. Jonas and George W. Stose. 1926. 40 pp., 7 pls. including 1 topographic and 1 geologic map	*
A 206.	<i>Allentown quadrangle</i> , by B. L. Miller. 1926. 195 pp., 15 pls. including 1 topographic and 1 geologic map, 2 figs.	*

* Out of print.

C—County Reports

		Price
C 1.	<i>Geology and mineral resources of Adams County</i> , by George W. Stose. 1932. 153 pp., 26 pls. including 1 topographic and 1 colored geologic map, 11 figs.	\$1.00
C 26.	<i>Geology and mineral resources of Fayette County</i> , by W. O. Hickok, IV and F. T. Moyer. 1940. 530 pp., 146 figs., 1 topographic, 1 coal and surface structure, 1 geologic map	3.25
C 30.	<i>Geology and mineral resources of Greene County</i> , by Ralph W. Stone. 1932. 175 pp., 3 pls. including 1 topographic and 1 geologic map, 56 figs. ...	1.00
C 39.	<i>Lehigh County, geology and geography</i> , by B. L. Miller and others. 1942. 492 pp., 17 figs., 39 pls. including 1 topographic and mine map and 1 geologic map	3.30
C 48.	<i>Northampton County, geology and geography</i> , by B. L. Miller, with chapter on Pre-Cambrian geology, by D. M. Fraser and on the Jacksonburg formation, by R. L. Miller. 1939. 496 pp., 29 pls., 36 figs. including geologic map	2.25
C 67.	<i>Geology and mineral resources of York County</i> , by George W. Stose and Anna I. Jonas. 1939. 195 pp., 38 pls., 14 figs. including geologic map	2.25

G—General Geology Reports

G 1.	<i>A syllabus of Pennsylvania geology and mineral resources</i> , by George H. Ashley. 1931. 160 pp., 2 plates including a small colored geologic map, 118 figs. A story of Pennsylvania's rocks, minerals and mineral industry, and the development of the surface features, written expressly for people who have not studied the subject	0.30
G 2.	<i>Meteorites found in Pennsylvania</i> , by Ralph W. Stone. 1932. 28 pp., 14 figs. A compilation of publications on five meteorites	0.10
G 3.	<i>Pennsylvania caves</i> , by Ralph W. Stone. 1932. 143 pp., 68 figs. Describes 14 caves open to the public, and about 70 undeveloped caves	0.25
G 4.	<i>Devonian faunas in Pennsylvania</i> , by Bradford Willard. 1932. 43 pp. Lists of certain Middle and Upper Devonian faunas, citing localities where collected	*
G 5.	<i>Correlation of the Ordovician limestone at Salona, Clinton County</i> , by Lawrence Whitcomb. 1932. 16 pp., 1 pl.	0.15
G 6.	<i>Scenery of Pennsylvania</i> , by George H. Ashley. 1933. Its origin and development, based on recent studies of physiographic and glacial history, as interpreted by the author. 91 pp., 1 pl., 90 figs.	0.35
G 7.	<i>Glacial deposits outside the Wisconsin terminal moraine in Pennsylvania</i> , by Frank Leverett. 1934. 140 pp., 1 pl., 38 figs.	*
G 8.	<i>Guidebook: A Paleozoic section in south-central Pennsylvania</i> , by Bradford Willard and Arthur B. Cleaves. 1938. 38 pp., 10 pls. Describes the geology from Highspire through Harrisburg to Newport, a stratigraphic succession from Lower Ordovician to Triassic	0.25
G 9.	<i>The geomorphology of the Wyoming-Lackawanna region</i> , by Harry Augustus Itter. 1938. 82 pp., 9 pls., 46 figs. Describes the evolution of the landscape	*
G 10.	<i>Recent geological history of the Delaware Valley below the Water Gap</i> , by Freeman Ward. 1938. 76 pp., 10 pls., 13 figs.	*
G 11.	<i>Guidebook: A Paleozoic section at Delaware Water Gap</i> , by Bradford Willard. 1938. 35 pp., 9 figs.	*
G 12.	<i>Guidebook: Highway geology from Philadelphia to Pittsburgh</i> , by Bradford Willard. 1939. 42 pp., 17 pls.	*
G 13.	<i>Guide to the geology from Dauphin to Sunbury</i> , by Bradford Willard. 1939. 24 pp., 7 pls.	0.25
G 14.	<i>Guide to the geology of the Upper Schuylkill Valley</i> , by Bradford Willard. 1939. 23 pp., 1 pl., 8 figs. Description from Pottsville to Leesport	0.25
G 15.	<i>Guidebook to the geology near Reading</i> , by Bradford Willard and Donald M. Fraser. 1939. 27 pp., 11 figs.	*
G 16.	<i>Guidebook to places of geologic interest in the Lehigh Valley</i> , by B. L. Miller. 1939. 47 pp., 24 figs.	0.25
G 17.	<i>Guidebook to the geology about Pittsburgh</i> , by Henry Leighton. 1939. 35 pp., 13 figs. Second printing 1947	0.25

* Out of print.

		Price
G 18.	Number assigned, but report not yet published.	
G 19.	<i>The Devonian of Pennsylvania</i> , by Bradford Willard, Frank M. Swartz and Arthur B. Cleaves. 1939. 450 pp., 32 pls., 95 figs.	\$3.00
G 20.	<i>Guidebook to the geology of the Pennsylvania Turnpike</i> , by A. B. Cleaves and George H. Ashley. 1942. 41 pp., 14 pls., 23 figs. Obtained from Topographic and Geologic Survey.	Free
G 21.	<i>Subsurface Trenton and Sub-Trenton rocks in Ohio, New York, Pennsylvania, and West Virginia</i> , by Chas. R. Fettke. 1948. 35 pp., 7 figs. Reprinted from Bull. AAPG, vol. 32, no. 8	0.20
G 22.	<i>Trenton and Sub-Trenton of outcrop areas in New York, Pennsylvania, and Maryland</i> , by Frank M. Swartz. 1948. 102 pp., 26 figs. Reprinted from Bull. AAPG, vol. 32, no. 8	0.35
G 23.	<i>Pleistocene terraces of the Susquehanna River</i> , by Louis C. Peltier. 1949	in press
G 24.	<i>Guidebook to the geology of the Pennsylvania Turnpike: Carlisle to Irwin</i> , by Arthur B. Cleaves and Robert C. Stephenson. 1949. Revision of earlier guidebook (G20) with geologic strip maps added	in press

M—Mineral Resource Reports

M 1.	<i>Oil and gas fields of Pennsylvania</i> . Vol. 1, Introduction, by George H. Ashley and J. French Robinson. 1922. 79 pp., 4 pls., 9 figs., 1 color map. A condensed, introductory description of the origin, mode of occurrence, and conditions of development of oil and gas, with a brief description of each of the oil and gas fields of the State; also a small scale reconnaissance map of the oil and gas fields	*
M 2.	<i>Oil resources in coals and carbonaceous shales of Pennsylvania</i> , by Chas. R. Fettke. 1923. 119 pp., 6 pls., 16 figs. Describes the petroleum situation, explaining methods of distilling coal and shale, and gives results of tests on 122 samples of coal and shale	*
M 3.	<i>Silica refractories of Pennsylvania</i> , by E. S. Moore and T. G. Taylor. 1924. 100 pp., 16 pls., 10 figs. Describes the character, distribution, and quarrying of ganister and mica schist; the properties, manufacture, and uses of silica brick	*
M 4.	<i>Bituminous coal losses and mining methods in Pennsylvania</i> , by James D. Sisler. 1924. 216 pp., 1 pl., 29 figs. Describes the distribution, thickness, character and reserves of bituminous coal by districts, and indicates the source of loss and waste at the mines	*
M 5.	<i>Lead and zinc ores of Pennsylvania</i> , by B. L. Miller. 1924. 91 pp., 5 pls., 7 figs. A description of the distribution, geologic occurrence and origin of the ores, and a history of mining operations	*
M 6.	<i>Bituminous coal fields of Pennsylvania</i> . Part I. <i>General information on coal</i> , by George H. Ashley. 1928. 241 pp., 17 pls., 32 figs.	0.50
	II. <i>Detailed description of coal fields</i> , by J. D. Sisler. 1932. 511 pp., 14 pls., including 5 color maps, 152 figs. A report giving details of the bituminous coal beds by counties (cloth) ...	1.00
	III. <i>Bituminous coal resources</i> , by John F. Reese and James D. Sisler. 1928. 153 pp., 4 pls. Reserves in tons	0.25
	IV. <i>Analyses of bituminous coal</i> . 1925. 268 pp., 1 pl. This report by the U. S. Bureau of Mines gives several hundred measurements and analyses of bituminous coal mined in Pennsylvania	0.50
M 7.	<i>Limestones of Pennsylvania</i> , by B. L. Miller. 1925. 368 pp., 15 pls., includes 1 color map, 7 figs. Replaced by bulletin M20	*
M 8.	<i>Anthracite losses and reserves in Pennsylvania</i> , by Dever C. Ashmead. 1926. 71 pp., 1 pl., 13 figs. This report gives the thickness and acreage of each bed in the anthracite fields, the percent of coal recovered in mining, explains how and why some anthracite is lost, and gives an estimate of the quantity of anthracite remaining in each bed, and in each of the four fields.	*
M 9.	<i>Slate in Northampton County</i> , by C. H. Behre, Jr. 1927. 312 pp., 36 pls., 49 figs., 2 color maps. Replaced by bulletin M16	*

* Out of print.

		Price
M 10.	<i>Fire clays of Pennsylvania</i> , by J. B. Shaw. 1928. 69 pp., 6 figs.	\$0.25
M 11.	<i>Molding sands of Pennsylvania</i> , by R. W. Stone and American Foundrymen's Association. 1928. 94 pp., 21 pls., 10 figs.	*
M 12.	<i>Anthracite culm and silt</i> , by James D. Sisler, Thomas Frazer and Dever C. Ashmead. 1928. 259 pp., 34 pls., 21 figs.	0.50
M 13.	<i>Feldspar in Pennsylvania</i> , by R. W. Stone and H. Herbert Hughes. 1931. 60 pp., 20 pls., 6 figs.	*
M 14.	<i>Magnetite deposits of French Creek, Pennsylvania</i> , by Laurence L. Smith. 1931. 52 pp., 5 pls., 5 figs.	*
M 15.	<i>Building stones of Pennsylvania</i> , by Ralph W. Stone. 1932. 316 pp., 4 pls., 164 figs. Report on varieties, availability, and uses of building stones	1.25
M 16.	<i>Slate in Pennsylvania</i> , by Charles H. Behre, Jr. 1933. 400 pp., 5 colored geologic maps, 65 other pls., 89 figs. Supersedes bulletin M9.....	2.75
M 17.	<i>Clay and shale resources of southwestern Pennsylvania</i> , by Henry Leighton. 1933. 190 pp., 1 colored geologic map, 16 figs.	0.75
M 18.	<i>The minerals of Pennsylvania</i> . A. <i>Introduction</i> , by George H. Asbley. 1933. 15 pp.	*
	B. <i>Iron ores of Pennsylvania</i> , by W. O. Hickok, IV. 1939. 21 pp.	free
	C. <i>Non-metallic minerals</i> , by R. W. Stone. 1939. 50 pp., 1 fig.	free
M 19.	<i>Contributions to oil and gas geology of western Pennsylvania</i> , by J. D. Sisler, G. H. Ashley, F. T. Moyer, and W. O. Hickok, IV. 1933. 94 pp., 22 pls., 1 fig.	*
M 20.	<i>Limestones of Pennsylvania</i> , by B. L. Miller. 1934. 729 pp., 41 pls., 34 figs. Report on distribution, quality and uses of limestones of Pennsylvania. Supersedes bulletin M7	2.00
M 21.	<i>Bradford oil field, Pennsylvania and New York</i> , by Chas. R. Fettke. 1938. 454 pp., 21 pls., 113 figs., including 1 geologic map. Includes description of water-flooding operations	3.00
M 22.	<i>Oil geology of the Titusville quadrangle, Pennsylvania</i> , by Parke A. Dickey. 1941. 87 pp., 6 pls., 13 figs., 1 columnar, 5 cross sections. Second printing 1947	2.00
M 23.	<i>Clay and shale resources in Pennsylvania</i> , by Henry Leighton. 1941. 245 pp., 1 colored geologic map and 4 figs.	1.00
M 24.	<i>Oil and gas geology of the Franklin Quadrangle, Pennsylvania</i> , by R. E. Sherrill and L. S. Matteson. 1941. 71 pp., 5 figs., 6 pls. of maps and sections (cloth cover)	1.00
M 25.	<i>Oil and gas geology of the Oil City quadrangle, Pennsylvania</i> , by Parke A. Dickey, R. E. Sherrill, and L. S. Matteson. 1943. 201 pp., 8 pls., 17 figs., 6 sections. (Cloth cover, \$1.50)	1.00
M 26.	<i>Iron-manganese ore deposit at White Rocks, Cumberland County, Pennsylvania</i> , by Richard M. Foose. 1946. 35 pp., 14 pls., 3 figs.	0.75
M 27.	<i>Manganese minerals of Pennsylvania</i> , by Richard M. Foose. 1946. 126 pp., 27 pls., 25 figs.	1.35
M 28.	<i>Oil and gas developments in the North Strabane area, Washington County, Pennsylvania</i> , by Chas. R. Fettke, Robert C. Stephenson, and E. M. Tignor. 1946. 62 pp., 2 pls., 10 figs.	1.00
M 29.	<i>McDonald and adjacent oil fields, Allegheny and Washington Counties, Pennsylvania</i> , by A. I. Ingham, E. M. Tignor, and W. M. Nabors. 1949. 112 pp., 10 pls., 14 figs.	in press
M 30.	<i>East Fork-Wharton gas field, Potter County, Pennsylvania</i> , by John R. Ebright, Chas. R. Fettke, and A. I. Ingham. 1949. 44 pp., 1 pl., 2 figs.	in press

PR—Progress Reports

PR 1-106.	Mimeographed series of reports, all out of print, many superseded. See G 1 for partial list.	*
PR 106.	<i>Gas and oil in Potter County, Pa.</i> , by S. H. Cathcart. 1934. 31 pp., 3 figs.	*
PR 107.	<i>Gas in Tioga County, Pennsylvania</i> , by S. H. Cathcart and T. H. Myers. 1934. 42 pp., 5 figs.	free
PR 108.	<i>Geologic structure in the plateaus region of northern Pennsylvania and its relation to the occurrence of gas in the Oriskany sand</i> , by S. H. Cathcart. 1934. 24 pp., 2 figs.	free
PR 109.	<i>Possibility of finding gas in Cameron County, Pennsylvania</i> , by S. H. Cathcart. 1934. 16 pp., 3 figs.	*

* Out of print.

		Price
PR 110.	<i>Possible occurrence of gas in the Oriskany sand of Elk County, Pennsylvania</i> , by S. H. Cathcart. 1934. 21 pp., 3 figs.	*
PR 111.	<i>Possibility of finding gas in the Oriskany sand of McKean County, Pennsylvania</i> , by S. H. Cathcart. 1934. 13 pp., 3 figs.	free
PR 112.	<i>White Clays of Pennsylvania</i> , by Henry Leighton. 1934. 19 pp., 12 figs. (See bulletins M17 and M23)	*
PR 113.	<i>Pennsylvania geology summarized</i> , by Bradford Willard. 1935. Third edition, revised, 1940, reprint 1948. 13 pp., 6 figs.	free
PR 114.	<i>Subsurface stratigraphy of northwestern Pennsylvania and a resume of gas and oil possibilities of deeper sands</i> , by Charles R. Fettke. 1935. 23 pp., 4 figs.	*
PR 115.	<i>Structure and stratigraphy of Fayette County</i> (prelim. rept.), by Forrest T. Moyer. 1937. 20 pp., 1 map. (See bulletin C26)	free
PR 116.	<i>Bradford oil field</i> (prelim. rept.), by Chas. R. Fettke. 1937. 17 pp., 5 figs. (See bulletin M21)	*
PR 117.	<i>Supplementary record of "deep sand" wells in Pennsylvania</i> , by S. H. Cathcart. 1937. 27 pp., 5 figs.	*
PR 118.	<i>Geology of the oil and gas fields of the Tidionte quadrangle</i> (prelim. rept.), by S. H. Cathcart, R. E. Sherrill, and L. S. Matteson. 1938. 15 pp., 7 maps, 1 fig., 181 well records	free
PR 119.	<i>The Canadian System</i> , by Geo. H. Ashley. 1938. 7 pp.	free
PR 120.	<i>Structure and stratigraphy of the Brookville quadrangle</i> (prelim. rept.), by Chas. K. Graeber. 1939. 9 pp., 4 figs., including geologic structure map. (See bulletin A54)	free
PR 121.	<i>Structure and stratigraphy of the Smicksburg quadrangle</i> (prelim. rept.), by M. N. Shaffner. 1939. 12 pp., geologic structure map, columnar section, and 25 plotted well records. (See bulletin A55)	free
PR 122.	<i>Geology of the oil and gas fields of the Hilliards quadrangle</i> (prelim. rept.), by R. E. Sherrill and L. S. Matteson. 1939. 25 pp., 4 correlation sections, 4 maps, and 238 well records. (Sold by Division of Documents)	\$0.15
PR 123.	<i>Oil mining possibilities in Pennsylvania</i> , by Parke A. Dickey. 1939. 31 pp., 10 figs.	*
PR 124.	<i>Summit gas pool, Fayette County, Pennsylvania</i> , by Charles R. Fettke. 1940. 21 pp., 1 fig.	*
PR 125.	<i>Musie Mountain oil pool and other oil pools in Lafayette Township, McKean County, Pennsylvania</i> , by Charles R. Fettke. 1941. 34 pp., 9 figs.	*
PR 126.	<i>The Upper Devonian and Lower Mississippian of southwestern Pennsylvania</i> , by Wilson M. Laird. 1941. 23 pp.	free
PR 127.	<i>Subsurface sections across western Pennsylvania</i> , by Charles R. Fettke. 1941. 57 pp., 1 map, 2 subsurface sections. (Sold by Division of Documents)	0.50
PR 128.	<i>Manganese minerals in Pennsylvania</i> (prelim. rept.), by Richard M. Foose. 1942. 22 pp., 3 figs. (See bulletin M27)	*
PR 129.	<i>Electrical well logging in the Eastern States</i> , by Parke A. Dickey. 1942. 30 pp., 20 figs.	*
PR 130.	<i>Anthracite reserves</i> , by Geo. H. Ashley. 1945. 13 pp.	free
PR 131.	<i>Haskell Sand core from the Coryville pool, McKean County, Pennsylvania</i> (prelim. rept.), by Chas. R. Fettke and W. H. Seifert. 1946. 9 pp., 1 fig. (A limited mimeographed edition for the oil industry)	*
PR 132.	<i>Topographic maps</i> , by Robert C. Stephenson. 1949. 20 pp., 9 figs.	free

SB—Special Bulletins

SB 1.	<i>Oil-bearing sands in southwestern Pennsylvania</i> , by L. S. Matteson and D. A. Busch. 1944. 11 pp. text, 208 well records, 55 pls. correlation sections and maps	1.50
SB 2.	<i>Oil and gas field farm line maps of the Franklin and Oil City quadrangles, Pennsylvania</i> , by Parke A. Dickey and L. S. Matteson. 1945. 18 maps, scale 1 inch = 2,000 feet	1.25
SB 3.	<i>Oil and gas field property line maps of the Hilliards quadrangle, Pennsylvania</i> , by R. E. Sherrill. 1946. 9 maps, scale 1 inch = 2,000 feet...	1.00
SB 4.	<i>Oil and gas field property line maps of the Titusville quadrangle, Pennsylvania</i> , by Parke A. Dickey and Lillian Heeren. 1946. 9 maps, scale 1 inch = 2,000 feet	1.00

G—Ground Water Resource Reports

		<i>Price</i>
W	1. <i>Ground water in southwestern Pennsylvania</i> , by Arthur M. Piper. 1933. 410 pp., 1 colored geologic map, 40 figs. A detailed description of the occurrence and character of ground water in Allegheny, Butler, Fayette, Greene, Washington, and Westmoreland counties	\$1.50
W	2. <i>Ground water in southeastern Pennsylvania</i> , by George M. Hall. 1934. 255 pp., 1 colored geologic map, 7 pls., 7 figs. A detailed description of the occurrence and character of ground water in Adams, Berks, Bucks, Chester, Cumberland, Dauphin, Delaware, Franklin, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, and York counties	1.25
W	3. <i>Ground water in northwestern Pennsylvania</i> , by R. M. Leggette. 1936. 215 pp., 1 colored geologic map, 8 other pls., 15 figs. A detailed description of the occurrence and character of ground water in Armstrong, Beaver, Clarion, Crawford, Erie, Forest, Indiana, Jefferson, Lawrence, Mercer, Venango, and Warren counties	1.50
W	4. <i>Ground water in northeastern Pennsylvania</i> , by Stanley W. Lohman. 1937. 300 pp., 1 colored geologic map, 6 other pls., 18 figs. A detailed description of the occurrence and character of ground water in Carbon, Columbia, northern Dauphin, Lackawanna, Luzerne, Monroe, Montour, Northumberland, Pike, Schuylkill, Susquehanna, Wayne, and Wyoming counties	1.50
W	5. <i>Ground water in south-central Pennsylvania</i> , by Stanley W. Lohman. 1938. 315 pp., 17 pls., 11 figs., including colored geologic map and well location map. A detailed description of the occurrence and character of ground water in Bedford, Blair, Cambria, Centre, Clearfield, Clinton, Fulton, Huntingdon, Juniata, Mifflin, Perry, Snyder, Somerset, and Union counties	1.50
W	6. <i>Ground water in north-central Pennsylvania</i> , by Stanley W. Lohman. 1939. 220 pp., 11 pls., 13 figs., including colored geologic map and well location map. A detailed description of the occurrence and character of ground water in Bradford, Cameron, Elk, Lycoming, McKean, Potter, Sullivan, and Tioga counties	1.25
W	7. <i>Ground water resources of Pennsylvania</i> , by Stanley W. Lohman. 1941. 32 pp., 11 figs., 1 pl. A summary of Bulletins W 1-6	0.25
W	8. <i>Ground water resources of the valley-fill deposits of Allegheny County, Pennsylvania</i> , by J. H. Adamson, Jr., J. B. Graham, and N. H. Klein. 1949. 181 pp., 5 pls., 9 figs.	<i>in press</i>

Maps

<i>Geologic map of Pennsylvania</i> . 1932. Scale 1:380,160 (1 inch = 6 miles)	1.50
<i>Map of coal fields of Pennsylvania</i> . 1929. Scale 1:380,160 (1 inch = 6 miles)	0.50
<i>Oil and gas map of Western Pennsylvania</i> . 1932. Scale 1:380,160 (1 inch = 6 miles). Pipe line maps on back..	0.25
<i>Undrilled areas of Sheffield quadrangle</i> , by L. S. Matteson. 1946. Scale 1 inch = 1 mile	*
<i>Undrilled areas of southern Kinzua and northern Kane quadrangles</i> , by Chas. R. Fettke. 1946. Scale 1 inch = 1 mile	<i>free</i>
<i>Farm line map of Warren quadrangle, showing undrilled areas</i> , by S. H. Cathcart and W. H. Seifert. 1947. Scale 1:31680 (2 inches = 1 mile)	0.30

SELECTED PUBLICATIONS

Department of Internal Affairs

<i>Pennsylvania's mineral heritage</i> . Department of Internal Affairs, Bureau of Statistics and Topographic and Geologic Survey, and the Pennsylvania State College, School of Mineral Industries. 1944. 248 pp., 29 figs.	0.50
<i>Map: Known sources of primary wealth, Commonwealth of Pennsylvania</i> . Departments of Agriculture, Commerce, Internal Affairs and Mines, and the Pennsylvania State College, School of Mineral Industries. 1949. Scale 1 inch = 10 miles.	<i>free</i>
(Request from the Department of Internal Affairs)	

* Out of print.

SELECTED PUBLICATIONS

Pennsylvania Topographic and Geologic Survey

Commission

(Third Survey)

Economic Reports

	Price
1. <i>Geology of the oil and gas fields in Sewickley quadrangle</i> , by M. J. Munn. 1910. 170 pp., 10 pls.	*
2. <i>Geologic map of southwestern Pennsylvania</i> . 1914. 29 pp., 10 pls.	*
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